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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,553	10/31/2001	Che-Bin Liu	2000P09023US01	7750

7590 03/07/2006

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Intellectual Property Department
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EXAMINER	
NGUYEN, JIMMY H	

ART UNIT	PAPER NUMBER
2673	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/001,553	LIU ET AL.	
	Examiner	Art Unit	
	Jimmy H. Nguyen	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,8,18-20 and 25-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,8,18-20 and 25-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 10/12/2005. Claims 1-3, 8, 18-20, and 25-36 are currently pending in the application. An action follows below:

Important Notice to Applicants

2. It is noted to Applicants that a device must be a physical object and can't be a **virtual** object; therefore, a medical device must be a **physical** object.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature, "command resulting in **translational and rotational manipulation of a medical device**" presently recited in last 2 lines of claim 1 and 18, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1 and 18 are objected to because of the following informalities: "a trajectory and motion pattern" in line 6 of claim 1 and line 8 of claim 18 should be changed to --a motion trajectory pattern", so as to make these claims consistent with the original disclosure, see abstract or specification, page 10, lines 13-15. Additionally to claim 1, the limitation, "by classifying the motion pattern along windows in time" in lines 10-11, should be moved to immediately after "a valid command" in line 8, see claim 18, lines 10-11.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-3, 8, 18-20, and 25-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding to claims above, the disclosure, when filed, does not fairly convey to one of ordinary skill in the art that applicants had in their possession the claimed feature, "command resulting in **translational and rotational manipulation of a medical device**" presently recited in last 2 lines of claim 1 and 18. The original disclosure, specifically Fig. 1 and the description on page 9, lines 4-22, expressly discloses the commands resulting a **virtual** endoscope (102) to move in translational and rotational directions. It is noted that a **virtual** endoscope is just an image and is not a physical object. Also see the Important Notice to Applicants section above. Accordingly, the original disclosure does not contain such description and details regarding to the above underlined feature as presently claimed, so as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-3, 8, 18-20, 25, 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga (US 6,346,940 B1) and further in view of Qiao et al. (US 6,075,895), hereinafter Qiao..

In regard to claims 1 and 18, Fukunaga discloses a method for automatically remotely issuing commands to a medical imaging workstation (a system comprising elements 1, 11, 30, and 31, see Figs. 1 and 2) comprising a step of using a mouse (12), a keyboard (13), or a virtual

operation device (61) to issue commands to the workstation to cause translational and rotational movement of a virtual endoscope (see col. 5, line 62 through col. 6, line 11). The difference between the claimed invention defined by these claims and the Fukunaga reference is that Fukunaga uses a mouse (12), a keyboard (13), or a virtual operation device (61) to issue commands, while the claimed invention uses the gestures to issue commands; therefore, Fukunaga does not teach the claimed limitations, "determining an object ... along windows in time" as presently recited in claim 1, lines 3-11 and in claim 18, lines 5-11.

However, Qiao discloses a method for utilizing gestures to issue commands to a workstation (an apparatus 100, see Fig. 1, see col. 1, lines 6-9), thereby causing the workstation automatically executing commands to perform functions corresponding to gestures (see col. 1, lines 21-33), the method comprising steps of: determining a change in a background of an image from a plurality of images (see column 1, lines 64-67 and column 2, lines 1-5; movement of the person in the foreground causes changes in what parts of the background are visible); determining an object in the image (see column 2, lines 15-22 and figure 3, step 181); determining a trajectory of the object through the plurality of images (see column 3, lines 37-39 and figure 11, step 377); and classifying a gesture according to the trajectory of the object (see column 3, lines 27-30 and figure 3, step 185).

Qiao further discloses identifying a gesture according to the trajectory of the object. See column 6, lines 58-62, disclosing, "After the pre-processor 152 removes (step 181) the background image to generate the player's image, the template matcher 154 (step 183) the player's image to a number of templates to generate template outputs". Further see column 8, lines 61-62, disclosing, "the post processor 156 analyzes those outputs to identify the specific

pre-defined gesture that corresponds" and lines 65-67, disclosing "the post-processor tracks (step 377) the player's body position". Such tracking through templates of body positions is understood to follow a trajectory.

Qiao further discloses determining if the gesture corresponds to a valid command by classifying the motion pattern along windows in time (see col. 1, line 66 through col. 2, line 5), and if the gesture corresponds to a valid command, the workstation automatically executing the command. See column 11, lines 11-16, disclosing, "Other approaches are applicable, such as a rule-based system...When an input is received, the ruled-based system compares it with its rules to generate the appropriate output." Thus, Qiao determines if the gesture corresponds to a valid command by comparing an input with rules and if the gesture corresponds to a valid command, the command, or "appropriate output" is executed. Further, see an example of these steps beginning on line 61 of column 11 to column 12, line 12.

Additionally to claim 18, Qiao discloses a program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for determining a gesture (see column 5, lines 9-12).

Furthermore, Qiao automatically controls a device, because the gestures of a user automatically control the gesture recognizing device, in that the device receives the gestures and maps them, classifies them, etc., accordingly without further user control. Thus, the gesture recognizing device performs many functions automatically.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a method for utilizing gestures to issue commands to a workstation, thereby causing the workstation automatically executing commands to perform

functions corresponding to gestures, in the method of Fukunuga, in view of the teaching in the Qiao reference, because this would avoid the use of an input device such as the mouse, keyboard, or other physical input device (see Qiao, col. 1, lines 10-20).

In regard to claims 2 and 19, Qiao discloses the step of determining the change in the background comprises the steps of: determining a gradient intensity map for the background from a plurality of images and for the current image; determining a comparison between the difference and a threshold (see column 2, lines 23-28); and determining a pixel to be a background pixel according to the comparison (see column 2, lines 34-37). Here, generating "the difference between the value of each pixel" is understood to mean determining a gradient intensity map because a gradient is generated by taking a difference between pixel values.

In regard to claims 3 and 20, Qiao discloses that the object includes a user's hand (see column 10, lines 38-51).

In regard to claims 8 and 25, Qiao discloses the step of identifying the gesture comprises the steps of: determining a reference point; determining a correspondence between the trajectory and the reference point; and classifying the trajectory according to one of a plurality of commands (see column 10, lines 38-51). Here, the "hand extended forward" is understood to be a determined reference point. Additionally, this limitation can be read on the "rest gesture" and movement away from that position (see column 10, lines 52-67 and figure 15).

In regard to claim 28, see rejection of claims 1 and 18.

In regard to claim 29, see rejection of claims 1 and 18.

In regard to claim 31, see rejection of claims 1 and 18.

9. Claims 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Qiao, and further in view of Funayama et al. (US 6,332,038 B1), hereinafter Funayama.

In regard to claims 26 and 34, Fukunaga in view of Qiao discloses an invention similar to that which is claimed in claims 26 and 34. See rejections of claims 1 and 18 for similarities. Fukunaga in view of Qiao does not disclose that the step of determining the object in the image comprises the steps of obtaining a normalized color representation for a plurality of colors in each image, determining from training images an estimate of a probability distribution of normalized color values for an object class, and determining, for each pixel, a likelihood according to an estimated probability density of normalized color values for the object class.

However, Funayama discloses an image processing device that detects an object in an image. See column 2, lines 15-18, disclosing, "For example, when the foregoing specified object domain is a human face, by using a probability density function derived from a color distribution of human faces, skin areas of faces can be separated from the base image." Thus, Funayama determines from training images an estimate of a probability distribution of color values for an object class and determines a likelihood according to an estimated probability density of color values for the object class. See column 14, lines 57-59, disclosing that "the separability measurement process was carried out for...all pixels of the base image"; thus, the likelihood is determined for each pixel. See column 13, line 44, disclosing that "separability is a normalized quantity". It is understood that the color values are normalized, as normalization is conventional and necessary in order to compare images. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fukunaga

in view of Qiao by determining an object on the image by obtaining a normalized color representation for a plurality of colors in each image, determining from training images an estimate of a probability distribution of normalized color values for an object class, and determining, for each pixel, a likelihood according to an estimated probability density of normalized color values for the object class. One would have been motivated to make such a modification based on the teaching of Funayama is to use a probability density function derived from a color distribution of the object class in order to separate an object from an image, thereby determining an object in the image. Also, the normalization of color values is conventional and necessary in order to compare images for any purpose, including object determination.

10. Claims 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Qiao, and further in view of Marrin et al. (US 5,875,257), hereinafter Marrin.

In regard to claim 27, Fukunaga in view of Qiao discloses an invention similar to that which is disclosed in claim 27. See rejection of claim 1 for similarities. Fukunaga in view of Qiao does not disclose that executing the command further comprises the steps of determining the duration of the gesture and correlating the duration of the gesture to an intensity and scale in which the command is executed.

However, Marrin discloses an invention in which the duration of the gesture is determined and correlates to a intensity and scale in which the command is executed. See column 8, lines 25-28 and 43-46, disclosing, "The tempo dictates the speed at which the musical composition is rendered, as well as its timing pattern, and is determined primarily from two-dimensional gesture, baton speed (or velocity), and the time between beats." Thus, the command

is the tempo and the duration of the gesture, which correlates in scale and intensity to the speed of the baton movement (since speed takes into account the amount of motion in a period of time). Further see column 8, lines 43-46, disclosing, "Interpreter 235 may be programmed to detect indication of impending tempo increases or decreases (e.g., through analysis of baton speed and direction)". Marrin further teaches that his invention "relates to electronic control, and in particular to gestural control of systems capable of exhibiting continuous, dynamically changeable behavior." Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fukunaga in view of Qiao by having executing the command further comprise the steps of determining the duration of the gesture and correlating the duration of the gesture to a intensity and scale in which the command is executed, as in the invention of Marrin. One would have been motivated to make such a change, since both inventions "relate to electronic control, and in particular to gesture control of systems capable of exhibiting continuous, dynamically changeable behavior."

In regard to claim 33, Qiao further discloses that repetition of a command increases the intensity of the command response. It is understood that repetition of a command would cause the command to be carried out as many times as the repetition occurs. Thus, the intensity of the command response increases accordingly. For example, if a command is repeated once, then it is carried out twice and the intensity of the command is twice what it would be if not repeated at all.

11. Claims 30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Qiao, and further in view of Iwamura (US 6,501,515 B1).

In regard to claims 30 and 32, as discussed above, Fukunaga in view of Qiao discloses all the claimed limitations except that the gesture is specifically a rotation of a user's hand or a waving of a user's hand from right to left, as presently claimed.

However, Iwamura discloses an invention in which the rotation of a user's hand and a waving of a user's hand from right to left correspond to gesture commands. See figure 2, depicting the rotation of a user's hand and figures 11 and 16, depicting waving of a user's hand from upper right to lower left and from lower left to upper right. Iwamure further teaches in column 5, lines 29-52, "The special hand motion is not limited to a circular move. Any other special gesture will do...For example, as a variation of the circular hand motion, the user 18 may move the hand 20 several times (for example twice) toward diagonal direction, for example, lower left to upper right...Compared with the circular motion shown in FIG. 2, this is an easier motion for the user 18 to make and also easier to detect for the system. A drawback is that such a motion is more likely to occur unintentionally than the circular motion and, thus, misdetection could occur more frequently...It is a tradeoff." Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fukunaga in view of Qiao by having gestures be a rotation of a user's hand or a waving of a user's hand from right to left, as in the invention of Iwamura. One would have been motivated to make such a change based on the teaching of Iwamura that "any other special gesture will do" and that the selection of the particular gesture for a command is a tradeoff, which is also common and conventional knowledge in the selection of gestures for gesture-recognition technologies.

12. Claims 1-3, 8, 18-20, 25, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga (US 6,346,940 B1) and further in view of Freeman et al. (US 5,594,469), hereinafter Freeman.

In regard to claims 1 and 18, Fukunaga discloses a method for automatically remotely issuing commands to a medical imaging workstation (a system comprising elements 1, 11, 30, and 31, see Figs. 1 and 2) comprising a step of using a mouse (12), a keyboard (13), or a virtual operation device (61) to issue commands to the workstation to cause translational and rotational movement of a virtual endoscope (see col. 5, line 62 through col. 6, line 11). The difference between the claimed invention defined by these claims and the Fukunaga reference is that Fukunaga uses a mouse (12), a keyboard (13), or a virtual operation device (61) to issue commands, while the claimed invention uses the gestures to issue commands; therefore, Fukunaga does not teach the claimed limitations, "determining an object ... along windows in time" as presently recited in claim 1, lines 3-11 and in claim 18, lines 5-11.

However, Freeman discloses a method for utilizing gestures to issue commands to a workstation (a television 10, see Fig. 1), thereby causing the workstation automatically executing commands to perform functions corresponding to gestures and controlling the machine or workstation (see col. 4, line 66 through col. 5, line 23), the method (see Fig. 5) comprising steps of: determining a change in a background of an image from a plurality of images (see steps 120 and 102 in Fig. 5); determining an object in the image (see steps 122-126); identifying a gesture according to a motion trajectory pattern of the object and determining if the motion pattern corresponding to a valid command by classifying the motion pattern along windows in time (step 128); and if the motion pattern corresponds to a valid command, the system automatically

executes the command (see step 130, Fig. 5). Further see col. 5, line 55 through col. 9, line 19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a method for utilizing gestures to issue commands to a workstation, thereby causing the workstation automatically executing commands to perform functions corresponding to gestures, in the method of Fukunuga, in view of the teaching in the Freeman reference, because this would avoid the use of an input device such as the mouse, keyboard, or other physical input device (see Freeman, col. 1, lines 18-35).

In regard to claims 2 and 19, as noting in col. 5, line 55 through col. 8, line 43, Freeman discloses the step of determining the change in the background further comprises the steps of: determining a gradient intensity map for the background from a plurality of images; determining a gradient intensity map for the current image; determining, for a plurality of pixels, a difference between the gradient intensity map and the gradient intensity map for the background; determining a comparison between the difference and a threshold; and determining a pixel to be a background pixel according to the comparison.

In regard to claims 3 and 20, Freeman discloses that the object includes a user's hand (see Fig. 1).

In regard to claims 8 and 25, as noting in col. 5, line 55 through col. 10, line 52, Freeman discloses the step of identifying a gesture further comprises the steps of: determining a reference point; determining a correspondence between the trajectory and the reference point; and translating the trajectory according to one of a plurality of commands.

In regard to claims 28, 29 and 31, see rejection of claims 1 and 18.

In regard to claims 30 and 32, Freeman also teaches that the gesture is specifically a rotation of a user's hand or a waving of a user's hand from right to left, as presently claimed (see Figs. 1 and 2).

13. Claims 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Freeman, and further in view of Funayama et al. (US 6,332,038 B1), hereinafter Funayama.

In regard to claims 26 and 34, Fukunaga in view of Freeman discloses an invention similar to that which is claimed in claims 26 and 34. See rejections of claims 1 and 18 for similarities. Fukunaga in view of Freeman does not disclose that the step of determining the object in the image comprises the steps of obtaining a normalized color representation for a plurality of colors in each image, determining from training images an estimate of a probability distribution of normalized color values for an object class, and determining, for each pixel, a likelihood according to an estimated probability density of normalized color values for the object class.

However, Funayama discloses an image processing device that detects an object in an image. See column 2, lines 15-18, disclosing, "For example, when the foregoing specified object domain is a human face, by using a probability density function derived from a color distribution of human faces, skin areas of faces can be separated from the base image." Thus, Funayama determines from training images an estimate of a probability distribution of color values for an object class and determines a likelihood according to an estimated probability density of color values for the object class. See column 14, lines 57-59, disclosing that "the separability measurement process was carried out for...all pixels of the base image"; thus, the likelihood is

determined for each pixel. See column 13, line 44, disclosing that "separability is a normalized quantity". It is understood that the color values are normalized, as normalization is conventional and necessary in order to compare images. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fukunaga in view of Freeman by determining an object on the image by obtaining a normalized color representation for a plurality of colors in each image, determining from training images an estimate of a probability distribution of normalized color values for an object class, and determining, for each pixel, a likelihood according to an estimated probability density of normalized color values for the object class. One would have been motivated to make such a modification based on the teaching of Funayama is to use a probability density function derived from a color distribution of the object class in order to separate an object from an image, thereby determining an object in the image. Also, the normalization of color values is conventional and necessary in order to compare images for any purpose, including object determination.

14. Claims 27 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga in view of Freeman, and further in view of Marrin et al. (US 5,875,257), hereinafter Marrin.

In regard to claim 27, Fukunaga in view of Freeman discloses an invention similar to that which is disclosed in claim 27. See rejection of claim 1 for similarities. Fukunaga in view of Freeman does not disclose that executing the command further comprises the steps of determining the duration of the gesture and correlating the duration of the gesture to an intensity and scale in which the command is executed.

However, Marrin discloses an invention in which the duration of the gesture is determined and correlates to a intensity and scale in which the command is executed. See column 8, lines 25-28 and 43-46, disclosing, "The tempo dictates the speed at which the musical composition is rendered, as well as its timing pattern, and is determined primarily from two-dimensional gesture, baton speed (or velocity), and the time between beats." Thus, the command is the tempo and the duration of the gesture, which correlates in scale and intensity to the speed of the baton movement (since speed takes into account the amount of motion in a period of time). Further see column 8, lines 43-46, disclosing, "Interpreter 235 may be programmed to detect indication of impending tempo increases or decreases (e.g., through analysis of baton speed and direction)". Marrin further teaches that his invention "relates to electronic control, and in particular to gesture control of systems capable of exhibiting continuous, dynamically changeable behavior." Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Fukunaga in view of Freeman by having executing the command further comprise the steps of determining the duration of the gesture and correlating the duration of the gesture to a intensity and scale in which the command is executed, as in the invention of Marrin. One would have been motivated to make such a change, since both inventions "relate to electronic control, and in particular to gesture control of systems capable of exhibiting continuous, dynamically changeable behavior."

In regard to claim 33, it is understood that repetition of a command would cause the command to be carried out as many times as the repetition occurs. Thus, the intensity of the command response increases accordingly. For example, if a command is repeated once, then it is

carried out twice and the intensity of the command is twice what it would be if not repeated at all.

Response to Arguments

15. Applicant's arguments, see pages 7-12 of the amendment filed on 10/12/2005, with respect to the rejections under 35 USC 103 in the Office Action dated 06/29/2005, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
March 3, 2006

Jimmy H. Nguyen
Primary Examiner
Art Unit: 2673